

t59\_topreal9 (TMSPXh-  
srVZgUiBqN2GB6BQ2HBv9pA6miZaV)

October 27, 2020

Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k5\_jgraph\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_jgraph\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k14\_euclid : \iota \Rightarrow \iota$  be given. Let  $k19\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k3\_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (u1\_struct\_0 (k15\_euclid X0) = u1\_struct\_0 (k14\_euclid X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k14\_euclid \\ & np\_2)))) \Rightarrow ((X3 = k19\_euclid X0 X1) \Rightarrow (k11\_metric\_1 (k14\_euclid np\_2) \\ & X3 X2 = k5\_jgraph\_6 X0 X1 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k14\_euclid \\ & np\_2)))) \Rightarrow ((X3 = k19\_euclid X0 X1) \Rightarrow (k9\_metric\_1 (k14\_euclid np\_2) \\ & X3 X2 = k6\_jgraph\_6 X0 X1 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(v1\_xreal\_0 \\
& X1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow ( \\
& \forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow (( \\
& (X2 \in k3\_topreal9 X0 X3 X1) \wedge (X4 \in k1\_topreal9 X0 X3 X1) \Rightarrow (k9\_subset\_1 \\
& (u1\_struct\_0 (k15\_euclid X0)) (k1\_rltopsp1 (k15\_euclid X0) X2 \\
& X4) (k3\_topreal9 X0 X3 X1) = k1\_tarski X2))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(v1\_xreal\_0 \\
& X1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k14\_euclid X0))) \Rightarrow ( \\
& (X2 = X3) \Rightarrow (k11\_metric\_1 (k14\_euclid X0) X3 X1 = k3\_topreal9 X0 X2 \\
& X1))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(v1\_xreal\_0 \\
& X1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k14\_euclid X0))) \Rightarrow ( \\
& (X2 = X3) \Rightarrow (k9\_metric\_1 (k14\_euclid X0) X3 X1 = k1\_topreal9 X0 X2 X1))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\
& ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers))
\end{aligned} \tag{7}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{8}$$

Assume the following.

$$v6\_membered k4\_ordinal1 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (m1\_subset\_1 \\
(k19\_euclid X0 X1) (u1\_struct\_0 (k15\_euclid np\_2))) \tag{10}$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\
(v7\_ordinal1 X1)) \tag{11}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (((X3 \in k5\_jgraph\_6 X0 X1 X2) \wedge (X4 \in k6\_jgraph\_6 X0 X1 X2)) \Rightarrow \\ & (k9\_subset\_1 (u1\_struct\_0 (k15\_euclid np\_2)) (k1\_rltopsp1 ( \\ & k15\_euclid np\_2) X3 X4) (k5\_jgraph\_6 X0 X1 X2) = k1\_tarski X3)))))) \end{aligned}$$